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Department of Agriculture

Natural Resources Conservation Service

Montana Basin Outlook Report

April 1, 1995

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How forecasts are made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Natural Resources Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

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Bozeman, Montana

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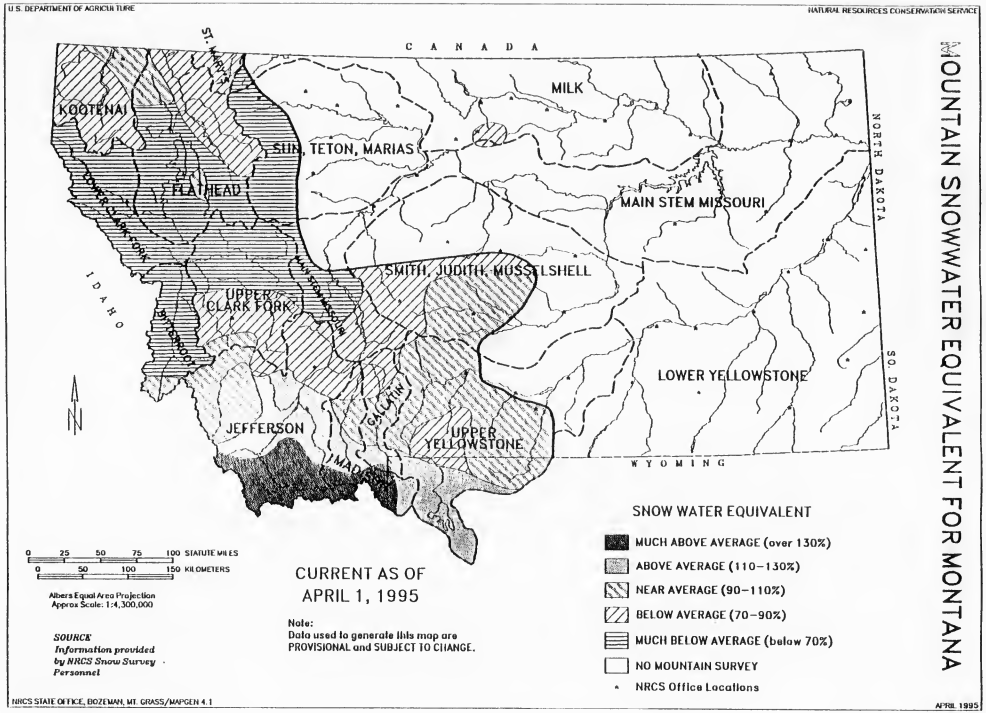
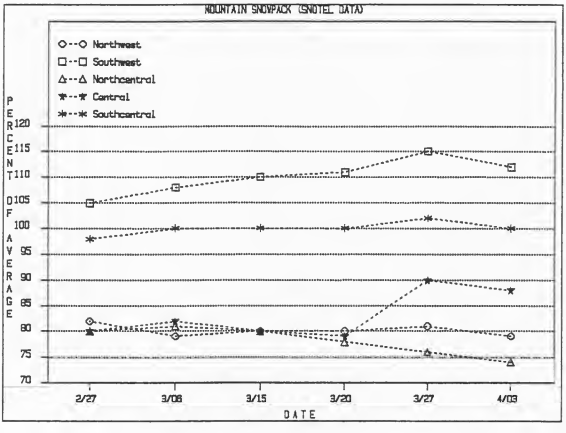

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
MOUNTAIN SNOWWATER EQUIVALENT FOR MONTANA
CANADA
ST. MARY'S
KOOTENAI
MILK
SUN, TETON, MARIAS
FLATHEAD
MAIN STEM MISSOURI
NORTH DAKOTA
SMITH, JUDITH, MUSSELSHELL
UPPER CLARK FORK
IDAHO
LOWER YELLOWSTONE
SO. DAKOTA
JEFFERSON
GALLATIN
UPPER YELLOWSTONE
MADISON
WYOMING
N
0 25 50 75 100 STATUTE MILES
0 50 100 150 KILOMETERS
Albers Equal Area Projection
Approx Scale: 1:4,300,000
SOURCE
Information provided by NRCS Snow Survey Personnel
CURRENT AS OF APRIL 1, 1995
Note:
Data used to generate this map are PROVISIONAL and SUBJECT TO CHANGE.
SNOW WATER EQUIVALENT
MUCH ABOVE AVERAGE (over 130%)
ABOVE AVERAGE (110–130%)
NEAR AVERAGE (90–110%)
BELOW AVERAGE (70–90%)
MUCH BELOW AVERAGE (below 70%)
NO MOUNTAIN SURVEY
NRCS Office Locations
NRCS STATE OFFICE, BOZEMAN, MT. GRASS/MAPGEN 4.1
APRIL 1995


MOUNTAIN SNOWPACK (SNOTEL DATA)
Northwest
Southwest
Northcentral
Central
Southcentral
PERCENT OF AVERAGE
120
115
110
105
100
95
90
85
80
75
70
2/27
3/06
3/15
3/20
3/27
4/03
DATE

BASIN SUMMARY OF SNOW COURSE DATA

APRIL 1995

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
MONTANA						
ABUNDANCE LAKE	8800	3/30/95	70	23.4	13.8	20.8
AMBROSE	6480	3/28/95	35	9.8	7.6	13.2
ASHLEY LAKE	4000	3/28/95	11	3.5	4.8	5.8
ARCH FALLS	7350	3/28/95	42	10.4	9.7	12.8
ASHLEY DIVIDE	4820	3/28/95	7	1.8	5.2	6.6
BADGER PASS PILLOW	6900	4/01/95	---	31.5	26.2	36.5
BADGER PASS	6900	3/30/95	87	32.4	28.7	38.4
BALD RIDGE	7500	3/30/95	57	14.0	7.3	13.4
BANFIELD MTN PILLOW	5600	4/01/95	---	17.5	13.6	20.2
BANFIELD MOUNTAIN	5600	3/27/95	49	17.6	14.8	22.9
BAREE CREEK	5500	3/29/95	90	39.8	28.6	45.3
BAREE MIDWAY	4600	3/29/95	67	24.4	23.9	35.1
BAREE TRAIL	3800	3/29/95	9	2.3	5.5	8.4
BARKER LAKES PILLOW	8250	4/01/95	---	15.2	10.5	15.4
BARKER LAKES	8250	3/29/95	54	14.2	10.4	15.6
BASIN CREEK PILLOW	7180	4/01/95	---	12.0	7.4	8.7
BASIN CREEK	7180	3/30/95	52	12.1	7.0	8.7
BASSOO PEAK	5150	3/30/95	14	5.1	6.0	11.3
BEAGLE SPGS PILLOW	8850	4/01/95	---	9.3	6.5	8.4
BEAGLE SPRINGS	8850	3/31/95	42	11.0	7.3	9.7
BEAR BASIN	8150	3/28/95	71	20.6	17.3	21.4
BEAVER CREEK PILLOW	7850	4/01/95	---	22.4	12.4	18.3
BERRY MEADOW	7000	3/29/95	20	6.4	5.6	8.0
BIG CREEK	6750	3/31/95	105	43.1	27.4	45.7
BIG SNOWY	7150	3/30/95	91	20.9	19.6	22.4
BISSON CREEK PILLOW	4920	4/01/95	---	6.2	5.8	10.2
BISSON CREEK	4920	3/31/95	23	7.5	7.2	9.7
BLACK BEAR PILLOW	7950	4/01/95	---	58.0	30.4	38.5
BLACK BEAR	7950	3/31/95	142	58.8	30.2	42.5
BLACK MOUNTAIN	7750	3/30/95	57	14.2	12.0	16.3
BLACK PINE PILLOW	7100	4/01/95	---	9.3	9.8	12.7
BLACK PINE	7100	3/31/95	29	10.1	8.9	13.5
BLACKTAIL	5650	4/01/95	30	10.4	10.3	14.2
BLOODY DICK PILLOW	7550	4/01/95	---	13.5	9.1	12.6
BLOODY DICK	7600	3/31/95	40	12.2	10.0	13.7
BLUE LAKE	5900	3/30/95	53	19.3	18.6	25.3
BOTS SOTS	7750	3/28/95	28	7.1	7.5	8.2
BOULDER MTN PILLOW	7950	4/01/95	---	21.7	16.3	20.6
BOULDER MOUNTAIN	7950	3/27/95	62	17.8	14.1	19.5
BOX CANYON PILLOW	6700	4/01/95	---	7.9	8.7	10.3
BOX CANYON	6670	3/24/95	26	7.9	9.9	12.2
BOXELDER CREEK	5100	3/30/95	18	3.0	10.1	8.3
BRANHAM LAKES	8850	3/30/95	94	34.5	17.0	30.2
BRIDGER BOWL PILLOW	7250	3/29/95	---	26.3	18.7	26.2
BRIDGER BOWL	7250	3/29/95	86	26.3	21.9	26.9
BRISTOW CREEK	3900	3/27/95	15	4.7	.0	9.4
BRUSH CREEK TIMBER	5000	3/30/95	15	5.0	3.0	9.5
BULL MOUNTAIN	6600	3/31/95	9	3.6	5.2	6.4
CABIN CREEK	5200	3/29/95	2	.6	5.0	6.2
CALL ROAD	8050	3/31/95	48	13.6	8.2	12.4

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
CALVERT CR PILLOW	6430	4/01/95	---	7.7	3.3	8.9
CALVERT CREEK	6430	3/31/95	31	10.1	6.8	11.5
CAMP MISERY	6400	3/29/95	124	50.0	34.6	49.0
CAMP SENIA	7890	3/28/95	29	6.7	6.0	6.6
CARROT BASIN PILLOW	9000	4/01/95	---	35.1	20.0	28.3
CARROT BASIN	9000	3/28/95	115	40.9	20.4	36.4
CARTER CREEK	7400	3/28/95	44	12.2	4.2	5.9
CEDAR GROVE	3760	4/05/95	21	6.4	5.9	12.2
CHESSMAN RESERVOIR	6200	3/28/95	12	2.7	1.9	3.9
CHICKEN CREEK	4060	3/28/95	32	11.7	14.9	14.0
CLOVER MDW PILLOW	8800	4/01/95	---	21.1	13.1	18.6
CLOVER MEADOW	8600	3/31/95	61	16.8	12.6	17.9
COLE CREEK PILLOW	7850	4/01/95	---	17.1	16.8	17.3
COLE CREEK	7850	3/30/95	65	18.0	20.4	18.0
COLLEY CREEK	6300	3/29/95	24	5.4	8.2	8.9
COMBINATION PILLOW	5600	4/01/95	---	1.2	3.1	5.8
COMBINATION	5600	4/01/95	3	1.0	3.6	6.1
COPPER BOTTOM PILLOW	5200	4/01/95	---	6.7	10.6	11.7
COPPER BOTTOM	5200	3/27/95	15	4.8	9.4	10.5
COPPER CAMP PILLOW	6950	4/01/95	---	25.5	18.4	34.9
COPPER CAMP	6950	3/27/95	64	23.7	17.6	29.9
COPPER CREEK	5700	3/27/95	18	5.8	10.0	14.2
COPPER MOUNTAIN	7700	3/27/95	53	14.1	6.9	11.4
COTTONWOOD CREEK	6400	3/30/95	31	8.8	7.2	8.8
COYOTE HILL	4200	3/30/95	10	3.3	5.3	9.5
CREVICE MOUNTAIN	8400	3/30/95	43	11.1	10.0	10.9
CRYSTAL LAKE PILLOW	6050	4/01/95	---	13.9	13.1	12.8
CRYSTAL LAKE	6050	3/30/95	57	14.4	13.8	14.5
DAD CREEK LAKE	8400	3/31/95	64	20.2	11.5	15.1
DAISY PEAK	7600	3/30/95	37	9.6	7.8	10.6
DALY CREEK PILLOW	5780	4/01/95	---	7.0	7.6	11.9
DALY CREEK	5780	3/30/95	28	8.6	8.4	12.3
DARKHORSE LK. PILLOW	8700	4/01/95	---	33.2	22.3	33.7
DARKHORSE LAKE	8600	4/01/95	76	29.3	17.7	27.0
DAVIS CREEK	5400	3/28/95	57	20.8	22.8	24.3
DEADMAN CR PILLOW	6450	4/01/95	---	7.7	10.3	10.2
DEADMAN CREEK	6450	3/30/95	29	8.4	11.2	11.3
DESERT MOUNTAIN	5600	3/29/95	40	12.8	10.8	15.5
DEVILS SLIDE	8100	3/28/95	70	18.6	15.0	22.1
DISCOVERY BASIN	7050	3/27/95	42	9.3	7.4	11.3
DIVIDE PILLOW	7800	4/01/95	---	16.1	7.9	11.3
DIVIDE	7800	3/31/95	55	17.0	7.4	11.6
DIX HILL	6400	4/02/95	16	5.8	5.6	11.3
DUPUYER CREEK PILLOW	5750	4/01/95	---	2.9	10.4	12.9
EAGLE CREEK	7000	3/29/95	47	13.6	11.5	14.4
EAST FORK R.S.	5400	3/30/95	5	1.7	1.8	5.6
EL DORADO MINE	7800	4/01/95	64	20.5	14.4	21.6
ELK HORN SPRINGS	7800	3/30/95	33	10.0	4.8	9.3
ELK PEAK	8000	3/29/95	54	14.0	12.6	17.3
EMERY CREEK PILLOW	4350	4/01/95	---	11.2	13.4	16.3
EMERY CREEK	4350	3/29/95	34	12.4	14.2	15.7
FATTY CREEK	5500	3/31/95	57	22.2	18.4	24.3
FISH CREEK	8000	3/30/95	58	14.5	8.0	9.9
FISHER CREEK PILLOW	9100	4/01/95	---	34.6	26.7	36.1
FISHER CREEK	9100	3/29/95	102	39.9	26.4	39.0

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
FIVE-BULL	5700	3/28/95	1	.2	3.6	6.3
FLATTOP MTN PILLOW	6300	4/01/95	---	45.7	38.7	47.1
FLEECER RIDGE	7500	3/31/95	39	13.3	7.8	11.3
FOOLHEN	8280	3/30/95	58	16.8	9.4	17.1
FOREST LAKE	6400	3/29/95	35	11.0	9.4	12.6
FOUR MILE	6900	3/30/95	31	9.2	5.8	8.9
FOURTH OF JULY	3450	3/29/95	0	.0	--	7.4
FRED BURR PASS	8000	3/28/95	79	22.2	16.7	25.4
FREIGHT CREEK	6000	3/30/95	31	10.4	12.0	15.5
FROHNER MDWS PILLOW	6480	4/01/95	---	5.6	5.7	8.7
FROHNER MEADOWS	6480	3/28/95	20	3.7	5.6	8.4
GARVER CREEK PILLOW	4250	3/27/95	---	7.6	10.3	10.1
GARVER CREEK	4250	3/27/95	27	8.8	11.6	10.2
GIBBONS PASS	7100	3/28/95	61	21.1	13.6	23.2
GOAT MOUNTAIN	7000	3/30/95	13	4.5	7.5	10.5
GOLD CREEK LAKE	7200	4/01/95	46	13.6	9.6	15.9
GOLD STONE	8100	3/31/95	52	16.2	12.2	17.4
GRASSHOPPER	7000	3/29/95	21	5.2	4.4	6.2
GRAVE CRK PILLOW	4300	4/01/95	---	12.2	13.2	16.7
GRAVE CREEK	4300	3/27/95	34	12.4	13.3	17.0
GRIFFIN CR DIVIDE	5150	3/30/95	19	6.2	5.6	11.2
GUNSIGHT LAKE	6300	3/30/95	83	31.8	32.1	40.0
HAND CREEK PILLOW	5030	4/01/95	---	10.8	8.4	13.3
HAND CREEK	5030	4/03/95	31	11.0	7.2	13.6
HAWKINS LAKE PILLOW	6450	4/01/95	---	23.2	17.1	29.0
HAWKINS LAKE	6450	3/27/95	74	27.6	21.4	31.0
HAYMAKER	8050	3/31/95	44	13.2	9.1	12.7
HEART LAKE TRAIL	4800	3/28/95	39	13.1	13.8	21.6
HEBGEN DAM	6550	3/29/95	42	14.3	9.1	12.1
HELL ROARING DIVIDE	5770	3/31/95	78	29.7	23.5	31.0
HERRIG JUNCTION	4850	3/28/95	68	26.2	22.0	26.0
HOLBROOK	4530	4/01/95	4	2.0	6.3	9.0
HOODOO BASIN PILLOW	6050	4/01/95	---	38.6	29.3	47.0
HOODOO BASIN	6050	3/28/95	106	39.9	30.4	51.0
HOODOO CREEK	5900	3/28/95	87	32.2	25.2	46.3
INDEPENDENCE	7850	3/24/95	49	13.8	14.7	18.3
INTERGAARD	6450	3/28/95	27	7.0	5.7	8.6
JAHNKE LAKE TRAIL	7200	3/30/95	37	10.8	6.4	10.0
JOHNSON PARK	6450	3/30/95	10	2.4	4.1	6.9
KEELER CREEK	3300	3/28/95	26	9.6	9.4	10.8
KINGS HILL	7500	3/30/95	50	12.2	12.0	14.5
KISHENEHN	3890	3/30/95	20	5.8	7.0	7.0
KIWANIS CAMP	3720	3/30/95	12	2.0	.0	.8
KRAFT CREEK PILLOW	4750	4/01/95	---	7.1	9.1	15.3
LAKE CREEK	6100	3/31/95	34	9.8	6.2	8.5
LAKEVIEW CANYON	6930	4/03/95	43	14.0	5.0	12.3
LAKEVIEW RDG. PILLOW	7400	4/01/95	---	15.2	6.5	13.0
LAKEVIEW RIDGE	7400	4/03/95	46	15.5	5.5	11.1
LEMHI RIDGE PILLOW	8100	4/01/95	---	13.6	9.3	11.1
LEMHI RIDGE	8100	3/31/95	48	14.2	9.4	10.7
LICK CREEK PILLOW	6860	4/01/95	---	11.7	8.8	14.4
LICK CREEK	6860	3/30/95	44	10.2	8.7	10.7
LITTLE PARK	7400	3/28/95	58	14.8	13.2	16.3
LOGAN CREEK	4300	3/30/95	17	5.1	5.0	7.1
LONE MOUNTAIN	8880	3/30/95	72	30.4	17.2	23.8
LOST HORSE	5940	3/29/95	62	22.6	20.2	32.3
LOST SOUL	4800	3/27/95	36	12.4	3.2	15.3

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
LOWER TWIN PILLOW	7900	4/01/95	---	22.0	10.6	18.6
LOWER TWIN	7900	3/30/95	80	26.6	13.2	22.1
LUBRECHT PILLOW	4680	4/01/95	---	.4	.0	5.1
LUBRECHT FLUME	4680	3/31/95	0	.0	.0	4.4
LUBRECHT FOREST NO 3	5450	3/31/95	7	2.3	1.7	6.8
LUBRECHT FOREST NO 4	4650	3/31/95	0	.0	.0	2.1
LUBRECHT FOREST NO 6	4040	3/31/95	0	.0	.0	2.3
LUBRECHT HYDROPLOT	4200	3/31/95	0	.0	.0	4.2
MADISON PLT PILLOW	7750	4/01/95	---	33.4	18.7	24.8
MADISON PLATEAU	7750	3/31/95	90	33.7	18.6	23.9
MANY GLACIER PILLOW	4900	4/01/95	---	5.4	14.7	16.6
MANY GLACIER	4900	3/30/95	27	10.8	18.4	18.8
MARIAS PASS	5250	4/01/95	20	9.2	14.8	17.4
MAYNARD CR PILLOW	6210	3/29/95	---	9.5	7.7	11.4
MAYNARD CREEK	6210	3/29/95	44	10.5	10.0	15.1
MIDDLE MILL CREEK	7850	3/30/95	53	16.4	9.5	16.6
MILL CREEK	7500	3/29/95	48	11.9	13.1	13.7
MINERAL CREEK	4000	3/30/95	34	12.6	18.6	17.5
MONUMENT PK PILLOW	8850	4/01/95	---	20.9	16.8	21.4
MONUMENT PEAK	8850	3/24/95	66	20.8	19.2	26.5
MOSS PEAK PILLOW	6780	4/01/95	---	41.0	25.9	38.4
MOULTON RESERVOIR	6850	3/30/95	28	9.1	5.8	6.8
MT LOCKHART PILLOW	6400	4/01/95	---	16.1	16.2	21.5
MOUNT LOCKHART	6400	3/24/95	52	18.6	19.6	23.1
MUDD LAKE	7650	3/31/95	53	17.8	12.0	20.0
MULE CREEK PILLOW	8300	4/01/95	---	17.0	10.0	16.2
MULE CREEK	8300	3/30/95	56	18.0	9.7	15.9
NEVADA CREEK PILLOW	6480	4/01/95	---	10.9	9.0	13.4
NEVADA CREEK	6480	3/26/95	36	10.2	10.0	14.4
NEW WORLD	6900	3/29/95	63	16.8	11.0	15.7
NEWTON MOUNTAIN	5600	3/29/95	82	30.8	26.6	35.6
NEZ PERCE CMP PILLOW	5650	4/01/95	---	10.3	10.9	15.1
NEZ PERCE CAMP	5650	3/30/95	32	11.0	12.0	15.2
NEZ PERCE CREEK	6600	3/27/95	20	6.3	3.9	7.1
NEZ PERCE PASS	6570	3/30/95	28	10.0	12.1	17.1
NOISY BASIN PILLOW	6040	4/01/95	---	39.1	28.7	40.7
NOISY BASIN	6040	3/29/95	109	39.0	31.2	45.4
N.F. ELK CR PILLOW	6250	4/01/95	---	8.9	8.3	13.2
N.F. ELK CREEK	6250	3/31/95	29	8.9	8.1	13.0
NF JOCKO PILLOW	6330	4/01/95	---	29.4	30.6	47.7
NORTH FORK JOCKO	6330	3/31/95	78	32.5	29.2	44.9
N.E. ENTRANCE PILLOW	7350	4/01/95	---	7.5	7.1	9.2
NORTHEAST ENTRANCE	7350	3/30/95	29	8.4	6.1	9.1
NOTCH	8500	3/31/95	81	26.8	11.4	16.4
OPHIR PARK	7150	4/02/95	39	11.7	10.2	18.0
PALISADE CREEK	8250	3/31/95	81	30.0	18.4	29.9
PETERSON MDW PILLOW	7200	3/27/95	---	9.9	7.3	11.0
PETERSON MEADOWS	7200	3/27/95	42	10.1	6.6	10.8
PICKET PIN LOWER	6200	3/29/95	4	.3	1.8	3.0
PICKET PIN MIDDLE	7250	3/29/95	10	1.6	7.4	13.4
PICKET PIN UPPER	8100	3/29/95	65	16.4	16.2	20.9
PICKFOOT CRK PILLOW	6650	4/01/95	---	6.8	7.5	11.0
PICKFOOT CREEK	6650	3/27/95	19	5.2	7.5	10.5
PIKE CREEK PILLOW	5930	4/01/95	---	20.5	22.7	27.9
PIKE CREEK	5930	3/27/95	50	17.9	20.8	26.7
PIPESTONE PASS	7200	3/28/95	28	7.6	4.2	5.9
PLACER BASIN PILLOW	8830	4/01/95	---	15.3	18.5	19.1

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
POORMAN CREEK	5100	4/04/95	63	26.8	21.0	34.4
PORCUPINE PILLOW	6500	4/01/95	---	7.5	3.8	7.4
PORCUPINE	6500	3/30/95	34	7.6	2.9	8.0
POTOMAGETON PARK	7150	3/30/95	53	17.1	8.5	14.6
RED MOUNTAIN	6000	3/29/95	51	17.2	14.3	18.9
RED TOP	5260	3/29/95	67	24.3	22.0	29.0
REVAIS CREEK	4800	3/30/95	0	.0	.0	2.1
ROCK CREEK	5600	3/31/95	44	10.3	11.0	10.6
ROCK CREEK MEADOW	8160	3/29/95	72	22.0	16.4	22.0
ROCKER PEAK PILLOW	8000	4/01/95	---	14.1	11.0	15.3
ROCKER PEAK	8000	3/29/95	52	14.6	9.0	15.5
ROCKY BOY PILLOW	4700	3/30/95	---	2.7	5.8	4.9
ROCKY BOY	4700	3/30/95	15	2.2	3.0	4.4
SACAJAWEA	6550	3/29/95	46	13.2	10.6	14.6
SADDLE MTN PILLOW	7900	4/01/95	---	25.2	15.8	26.1
SADDLE MOUNTAIN	7940	3/28/95	70	24.3	15.9	25.6
SHORT CREEK PILLOW	7000	4/01/95	---	6.7	4.8	6.3
SHOWER FALLS PILLOW	8100	4/01/95	---	20.5	18.3	23.8
SHOWER FALLS	8100	3/28/95	76	19.8	16.1	23.6
SILVER RUN PILLOW	6630	4/01/95	---	2.5	4.4	6.8
SILVER RUN	6630	3/30/95	3	.3	3.9	5.2
SKALKAHO PILLOW	7260	4/01/95	---	21.4	13.7	24.9
SKALKAHO SUMMIT	7250	3/30/95	61	21.0	15.2	25.9
SLAG-A-MELT LAKE	8750	3/31/95	65	20.8	15.6	25.8
SLIDE ROCK MOUNTAIN	7100	3/31/95	37	11.6	10.7	16.7
SMUGGLER MINE	6960	3/30/95	40	12.8	5.6	10.5
S.F. SHIELDS PILLOW	8100	4/01/95	---	18.5	11.9	17.9
SPOTTED BEAR MTN.	7000	3/29/95	24	8.0	9.6	14.9
SPUR PARK PILLOW	8100	4/01/95	---	18.2	20.5	22.2
SPUR PARK	8100	3/30/95	56	15.2	15.7	21.4
SQUAW PEAK	6150	3/30/95	33	10.3	11.5	16.0
STAHL PEAK PILLOW	6030	4/01/95	---	38.6	26.6	35.1
STAHL PEAK	6030	3/27/95	105	40.6	28.7	39.7
STEMPLE PASS	6600	3/31/95	21	6.6	7.0	10.6
STORM LAKE	7780	3/27/95	57	13.7	8.8	14.0
STRYKER BASIN	6180	3/28/95	94	35.0	23.1	34.6
STUART MOUNTAIN	7400	3/31/95	67	25.0	19.0	32.9
SUCKER CREEK	3960	3/30/95	17	3.1	.0	.4
TAYLOR ROAD	4080	3/30/95	20	3.2	3.8	2.2
TEN MILE LOWER	6600	3/28/95	29	5.2	5.8	7.8
TEN MILE MIDDLE	6800	3/28/95	54	11.8	8.6	12.2
TEPEE CREEK PILLOW	8000	4/01/95	---	19.4	9.6	13.4
TEPEE CREEK	8000	3/31/95	67	22.4	10.9	15.8
TIMBERLINE CREEK	8850	3/28/95	59	16.6	13.8	14.8
TIZER BASIN PILLOW	6840	4/01/95	---	10.3	8.6	12.0
TRAIL CREEK	7090	3/31/95	35	10.2	7.8	8.7
TRINKUS LAKE	6100	3/29/95	98	35.6	30.7	43.4
TRUMAN CREEK	4060	3/28/95	1	.1	2.7	3.5
TV MOUNTAIN	6800	3/31/95	44	14.3	11.0	19.2
TWELVEMILE PILLOW	5600	4/01/95	---	11.2	13.0	18.6
TWELVEMILE CREEK	5600	3/29/95	33	11.8	14.2	21.6
TWENTY-ONE MILE	7150	3/26/95	66	23.3	11.3	17.4
TWIN CREEKS	3580	3/29/95	10	3.7	7.3	10.3
TWIN LAKES	6510	3/29/95	88	35.2	29.0	41.7
UPPER HOLLAND LAKE	6200	3/30/95	68	25.1	24.4	35.4
WALDRON PILLOW	5600	4/01/95	---	6.0	10.7	11.3
WALDRON	5600	3/24/95	9	2.6	7.6	10.0

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
WARM SPRINGS PILLOW	7800	4/01/95	---	18.8	14.3	22.3
WARM SPRINGS	7800	3/28/95	63	16.8	13.4	19.8
WEASEL DIVIDE	5450	3/27/95	89	33.4	25.6	33.8
WEST YELL'ST PILLOW	6700	3/27/95	---	11.2	5.8	9.1
WEST YELLOWSTONE	6700	3/27/95	45	16.0	9.0	11.6
WHISKEY CREEK PILLOW	6800	4/01/95	---	22.0	13.0	17.5
WHISKEY CREEK	6800	3/31/95	73	29.3	15.8	21.5
WHITE MILL PILLOW	8700	4/01/95	---	24.9	19.0	25.1
WHITE MILL	8700	3/29/95	83	30.6	21.5	28.2
WHITE PINE RIDGE	8850	3/31/95	36	9.0	4.4	5.8
WILLOW CREEK	6500	3/30/95	23	4.9	6.7	9.5
WOOD CREEK PILLOW	5960	4/01/95	---	5.9	7.4	12.2
WOOD CREEK	5960	3/28/95	18	4.9	6.8	11.3
WRONG CREEK	5700	3/28/95	16	5.3	10.1	13.6
WRONG RIDGE	6800	3/28/95	41	11.8	13.4	19.4

MONTANA Water Supply Outlook Report as of April 1, 1995

March was an on again/off again month. Weather was varied between above average temperatures and a couple light storms, but during the third week there was a major winter storm that brought a lot of snow and wind to the central part of the state. The storm was of much less magnitude in northern and southern Montana, but did give all locations increases in snow water contents.

SNOWPACK

As of April 1, mountain snow water conditions across Montana were 12 percent below average; 25 percent above last year; and increased 1 percent during March.

Snowpack extremes occurred in the Sun River Basin where the snow water content was 51 percent below average and 30 percent below last year and in the Upper Madison River Basin where the snow water content was 32 percent above average and 77 percent above last year.

West of the Continental Divide, snow water content was 19 percent below average; 15 percent above last year; and decreased 1 percent during March. East of the Continental Divide, snowpacks were 3 percent below average; 28 percent above last year; and increased 4 percent during March.

With about 95 percent of the winter snowpack in place, the Sun, Teton, Marias, and Blackfoot river basins will need timely spring rain to insure adequate surface water supplies. The storm that added a lot of snow water to central Montana, did not add significant snow water to the above mentioned basins.

RIVER BASIN	% OF AVERAGE	% OF LAST YEAR
COLUMBIA	79	117
KOOTENAI	86	125
FLATHEAD	81	112
UPPER CLARK FORK	76	122
BITTERROOT	75	119
LOWER CLARK FORK	71	117
MISSOURI	99	139
MISSOURI HEADWATERS	110	161
JEFFERSON	109	169
MADISON	123	99
MISSOURI MAINSTEM	75	97
MISSOURI MAINSTEM	75	97
HEADWATERS MAINSTEM	85	120
SMITH-JUDITH-MUSSELSHELL	89	109
SUN-TETON-MARIAS	61	81
MILK	84	80
ST. MARY	78	88

SNOWPACK (continued)

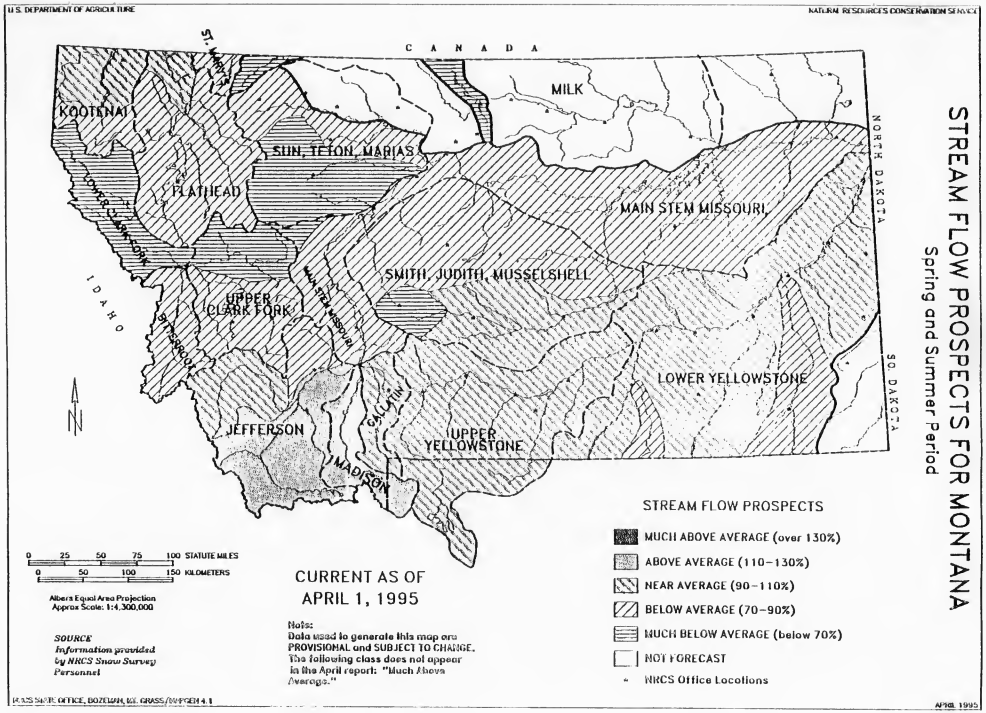
RIVER BASIN	% OF AVERAGE	% OF LAST YEAR
YELLOWSTONE	96	117
UPPER YELLOWSTONE	96	123
LOWER YELLOWSTONE (WYOMING)	98	112
WIND	97	122
SHOSHONE	112	139
BIGHORN	103	114
TONGUE	89	89
POWDER	101	117

PRECIPITATION

March mountain precipitation, across the state, was 12 percent above average and 82 percent above last year, while water year precipitation was 8 percent above average and 41 percent above last year.

West of the Continental Divide, March precipitation was 8 percent below average and 58 percent above last year and water year precipitation was 1 percent above average and 46 percent above last year. East of the Continental Divide, March precipitation was 22 percent above average and 94 percent above last year and water year precipitation was 12 percent above average and 38 percent above last year.

RIVER BASIN	MARCH % OF AVERAGE	WATER YEAR % OF AVERAGE
COLUMBIA	92	101
KOOTENAI	122	107
FLATHEAD	88	102
UPPER CLARK FORK	83	92
BITTERROOT	89	99
MISSOURI	124	109
LOWER CLARK FORK	98	101
JEFFERSON	149	122
MADISON	156	130
GALLATIN	137	107
MISSOURI MAINSTEM	101	92
SMITH-JUDITH-MUSSELSHELL	114	96
SUN-TETON-MARIAS	51	90
MILK	182	95
ST. MARY	70	98
YELLOWSTONE	119	114
UPPER YELLOWSTONE	127	110
LOWER YELLOWSTONE	113	120
WIND	111	110
SHOSHONE	139	122
BIGHORN	110	124
TONGUE	96	128
POWDER	78	141



STREAM FLOW PROSPECTS FOR MONTANA

Spring and Summer Period

RESERVOIRS

Major reservoir storage across the state was 12 percent below average and 27 percent below last year.

West of the Continental Divide, reservoirs were 8 percent below average and 45 percent above last year. East of the Continental Divide, reservoirs were 9 percent above average and the same as last year.

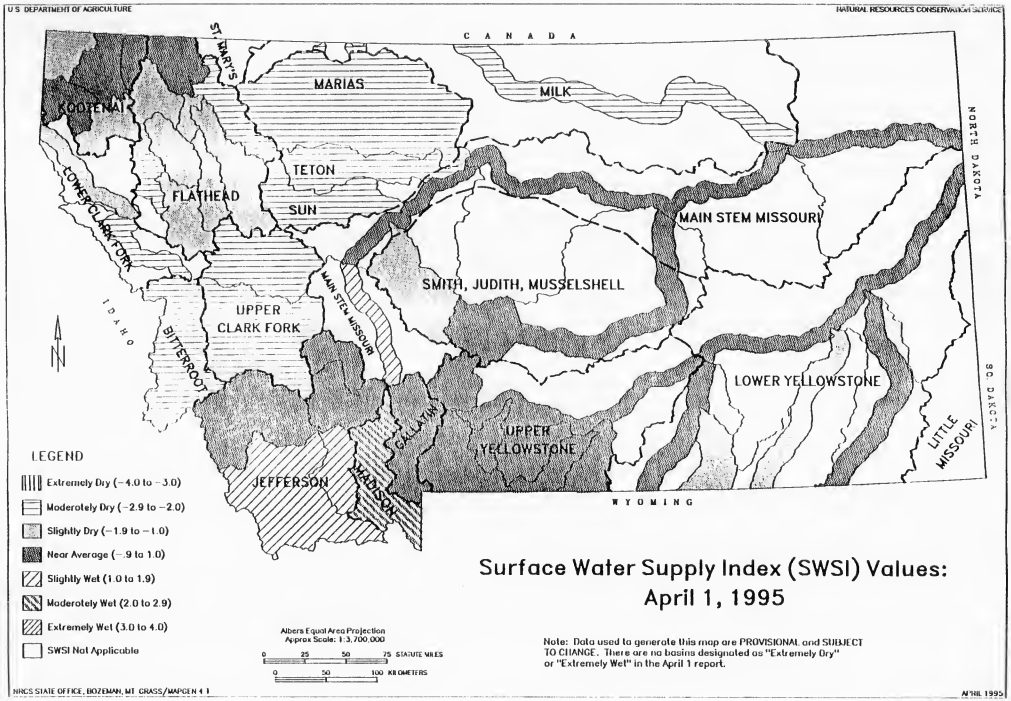
RIVER BASIN	% OF AVERAGE	% OF LAST YEAR
COLUMBIA	92	145
KOOTENAI	132	120
FLATHEAD	90	173
UPPER CLARK FORK	112	94
BITTERROOT	96	224
LOWER CLARK FORK	130	114
MISSOURI	104	92
JEFFERSON	92	78
MADISON	99	96
GALLATIN	137	140
MISSOURI MAINSTEM	101	101
SMITH-JUDITH-MUSSELSHELL	108	84
SUN-TETON-MARIAS	112	87
MILK	89	63
ST. MARY	102	70
YELLOWSTONE	114	108
UPPER YELLOWSTONE	128	115
LOWER YELLOWSTONE	100	102

STREAMFLOW

Streamflow forecasts across Montana were 14 percent below average and 25 percent above last years forecasts.

West of the Continental Divide, streamflows are forecast to be 27 percent below average and 16 percent above last years forecasts. East of the Continental Divide, streamflows are forecast to be 17 percent below average and 30 percent above last years forecasts.

RIVER BASIN	FORECASTS % OF AVERAGE	FORECASTS % OF LAST YEAR
COLUMBIA	86	125
KOOTENAI	88	113
FLATHEAD	75	99
UPPER CLARK FORK	64	122
BITTERROOT	71	134
LOWER CLARK FORK	69	114
MISSOURI	91	134
JEFFERSON	106	198
MADISON	120	162
GALLATIN	104	142


U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
CANADA
ST. MARY'S
MARIAS
MILK
KOOTENAI
TETON
FLATHEAD
SUN
LOWER CLARK FORK
MAIN STEM MISSOURI
NORTH DAKOTA
SMITH, JUDITH, MUSSELSHELL
UPPER CLARK FORK
IDAHO
BITTERROOT
MAIN STEM MISSOURI
LOWER YELLOWSTONE
SO. DAKOTA
GALLATIN
UPPER YELLOWSTONE
LITTLE MISSOURI
JEFFERSON
MADISON
WYOMING
N
LEGEND
Extremely Dry (−4.0 to −3.0)
Moderately Dry (−2.9 to −2.0)
Slightly Dry (−1.9 to −1.0)
Near Average (−.9 to 1.0)
Slightly Wet (1.0 to 1.9)
Moderately Wet (2.0 to 2.9)
Extremely Wet (3.0 to 4.0)
SWSI Not Applicable
Albers Equal Area Projection
Approx Scale: 1:3,700,000
0 25 50 75 STATUTE MILES
0 50 100 KILOMETERS
Surface Water Supply Index (SWSI) Values:
April 1, 1995
Note: Data used to generate this map are PROVISIONAL and SUBJECT TO CHANGE. There are no basins designated as "Extremely Dry" or "Extremely Wet" in the April 1 report.
NRCS STATE OFFICE, BOZEMAN, MT. GRASS/MAPGEN 4.1
APRIL 1995

STREAMFLOW (continued)

RIVER BASIN	FORECASTS % OF AVERAGE	FORECASTS % OF LAST YEAR
MISSOURI MAINSTEM	102	169
SMITH-JUDITH-MUSSELSHELL	83	110
SUN-TETON-MARIAS	70	95
MILK	60	90
ST. MARY	84	104
YELLOWSTONE	100	114
UPPER YELLOWSTONE	100	115
LOWER YELLOWSTONE	100	113

NOTE: The FORECAST AS % OF LAST YEAR column above, is this years forecast as a percent of last years forecast, not of what actually occurred.

SURFACE WATER SUPPLY INDEX

The Surface Water Supply Index (SWSI) is an indicator of surface water supply conditions for the spring and summer months. Water users that rely on mountain precipitation can use the index to evaluate seasonal surface water supplies. The SWSI accounts for mountain snowpack, mountain precipitation, streamflow, reservoir storage, and soil moisture.

SWSI RATING	SURFACE WATER CONDITION
+3.0 to +4.0	Extremely Wet
+2.0 to +3.0	Moderately Wet
+1.0 to +2.0	Slightly Wet
-1.0 to +1.0	Near Average
-1.0 to -2.0	Slightly Dry
-2.0 to -3.0	Moderately Dry
-3.0 to -4.0	Extremely Dry

SWSI's on April 1, were ranging from +2.4 to -2.6 statewide. West of the Continental Divide, SWSI's were ranging from +0.8 to -2.6 as compared to last years range of -0.8 to -3.5 and east of the Continental Divide from # to # as compared to last years range of +2.5 to -3.4.

SWSI	Basin
-0.3	Kootenai River at Ft. Steele (Kootenai in Canada)
-0.3	Tobacco River
-0.6	Kootenai Ft. Steele to Libby Dam
+0.8	Kootenai River below Libby Dam
-1.3	Fisher River
-1.5	Yaak River
-0.9	North Fork Flathead River
-2.1	Middle FORK Flathead River
-1.5	South Fork Flathead River
-1.5	Flathead River at Columbia Falls
-1.0	Stillwater/Whitefish Rivers

SURFACE WATER SUPPLY INDEX (continued)

SWSI	Basin
-1.4	Swan River
-1.7	Flathead River at Polson
-1.4	Mission Valley
-2.5	Little Bitterroot River
-1.3	Clark Fork River above Rock Creek
-2.6	Blackfoot River
-2.0	Clark Fork River above Missoula
-2.0	Bitterroot River
-2.0	Clark Fork River below Bitterroot River
-1.8	Clark Fork River below Flathead River
+1.0	Beaverhead River
+1.0	Ruby River
+0.2	Big Hole River
+0.1	Boulder River (Jefferson)
+0.5	Jefferson River
+2.4	Madison River
+0.8	Gallatin River
+1.2	Missouri River above Canyon Ferry
+0.9	Missouri River below Canyon Ferry
-1.8	Smith River
-2.3	Sun River
-2.6	Teton River
-2.1	Birch/Dupuyer Creeks
-2.2	Marias River
-0.2	Musselshell River
+0.5	Missouri River above Ft. Peck
+0.0	Missouri River below Ft. Peck
-2.5	Milk River (USBR users)
+0.1	Yellowstone River above Livingston
+0.2	Shields River
-0.6	Boulder River (Yellowstone)
-0.4	Stillwater River
-0.5	Rock/Red Lodge Creeks
-0.4	Clarks Fork River
-0.1	Yellowstone River above Bighorn River
+0.1	Bighorn River below Bighorn Lake
-1.3	Little Bighorn River
+0.0	Yellowstone River below Bighorn River
-1.3	Tongue River
-0.1	Powder River

KOOTENAI RIVER BASIN in Montana as of April 1, 1995

Snowpack conditions in the Kootenai River Basin of Montana and Canada were below average. Snow water content for the Kootenai in Montana was 14 percent below average; 25 percent above last year; and decreased 4 percent during March. Snow water content for the East Kootenai in Canada was 13 percent below average; 3 percent below last year; and decreased 3 percent during March.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
KOOTENAI MAINSTEM	8	143	86
TOBACCO	3	129	98
FISHER	5	119	74
YAAK	6	109	85
KOOTENAI ab BONNERS FERRY	42	112	86
KOOTENAI in MONTANA	21	125	85

Mountain precipitation during March was 7 percent above average and 41 percent above last year. Valley precipitation during March was 22 percent above average and 178 percent above last year. Water year precipitation, beginning October 1, 1994, was 7 percent above average and 56 percent above last year.

Lake Koocanusa storage, on the last day of March, was 32 percent above average and 20 percent above last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
LAKE KOOCANUSA	5748.0	2835.0	2364.0	2141.0

Streamflows, for the period April through July, are forecast to be 12 percent below average and 13 percent above last years forecasts.

Streamflow Forecasts

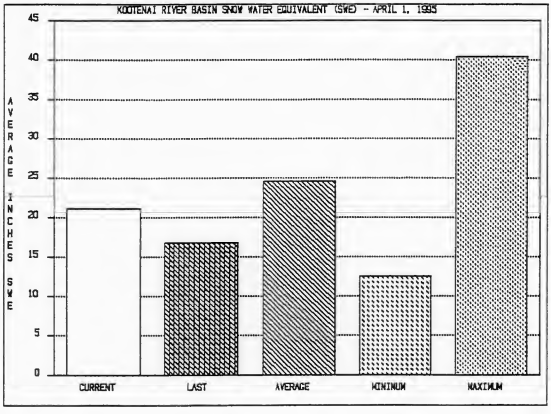
Forecast Pt / Forecast Period	<— Drier — 90% (1000AF)	70% (1000AF)	Future Conditions — Chance of Exceeding * — 50% (Most Prob) (1000AF)	(% AVG.)	— Wetter —> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
TOBACCO nr Eureka							
APR-JUL	98	114	126	95	137	153	133
APR-SEP	107	126	139	95	151	171	147
KOOTENAI bl Libby Dam (1,2)							
APR-JUL	4100	4860	5210	90	5560	6320	5779
APR-SEP	4800	5690	6100	90	6510	7400	6772
FISHER nr Libby							
APR-JUL	152	171	183	78	196	215	234
APR-SEP	166	184	197	79	210	230	250
YAAK near Troy							
APR-JUL	360	400	431	89	460	505	483
APR-SEP	375	420	452	90	480	525	505
KOOTENAI at Leonia (1,2)							
APR-JUL	4880	5820	6250	87	6680	7620	7199
APR-SEP	5600	6690	7180	87	7670	8760	8275

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -0.3 in the Kootenai River at Ft. Steele (Kootenai in Canada); -0.3 in the Tobacco River; -0.6 in the Kootenai Ft. Steele to Libby Dam; +0.8 in the Kootenai River below Libby Dam; -1.3 in the Fisher River; and -1.5 in the Yaak River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1974.

FLATHEAD RIVER BASIN as of April 1, 1995

Snowpack conditions in the Flathead River Basin of Montana and Canada were below average. Snow water content for the Flathead in Montana was 19 percent below average; 12 percent above last year; and decreased 3 percent during March. Snow water content for the Flathead in Canada was 6 percent below average; 23 percent above last year; and increased 1 percent during March.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
NORTH FORK in CANADA	5	123	94
NORTH FORK in MONTANA	9	110	91
MIDDLE FORK	7	102	81
SOUTH FORK	9	109	79
STILLWATER-WHITEFISH	10	117	85
SWAN	9	127	86
MISSION VALLEY	5	140	92
LITTLE BITTERROOT-ASHLEY	6	78	51
JOCKO	5	111	68
FLATHEAD in MONTANA	43	112	81
FLATHEAD RIVER BASIN	48	113	82

Mountain precipitation during March was 14 percent below average and 69 percent above last year. Valley precipitation during March was 2 percent below average and 345 percent above last year. Water year precipitation, beginning October 1, 1994, was 2 percent above average and 42 percent below last year.

Reservoir storage, on the last day of March, was 10 percent below average and 73 percent above last year. Combined Camas reservoir storage was 3 percent above average and 14 percent above last year; the combined Mission Valley reservoir storage was 18 percent below average and 8 percent below last year; Hungry Horse storage was 9 percent below average and 129 percent above last year; and Flathead Lake storage was 13 percent below average and 7 percent above last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
CAMAS (4)	45.2	14.8	21.4	23.7
MISSION VALLEY (8)	100.0	29.5	36.5	40.9
HUNGRY HORSE	3451.0	1863.0	811.8	2046.0
FLATHEAD LAKE	1791.0	656.4	616.0	751.9

Streamflows, for the period April through July, are forecast to be 25 percent below average and 1 percent below last years forecasts.

Streamflow Forecasts

Forecast Pt Forecast Period	<== Drier == Future Conditions == Wetter ==> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
NF FLATHEAD nr Columbia Falls							
APR-JUL	1310	1420	1490	90	1560	1670	1662
APR-SEP	1450	1570	1650	90	1730	1850	1836
MF FLATHEAD nr West Glacier							
APR-JUL	985	1110	1200	73	1290	1420	1638
APR-SEP	1070	1210	1310	73	1410	1550	1788

Forecast Pt Forecast Period	<== Drier == Future Conditions == Wetter ==> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
SF FLATHEAD nr Columbia Fls (1,2)							
APR-JUL	1140	1350	1440	70	1530	1740	2051
APR-SEP	1220	1450	1550	71	1650	1880	2184
FLATHEAD at Columbia Falls (2)							
APR-JUL	3560	3890	4110	75	4330	4660	5482
APR-SEP	3890	4260	4510	76	4760	5130	5960
STILLWATER nr Whitefish							
APR-JUL	109	121	129	68	137	149	189
APR-SEP	117	131	141	67	151	165	209
WHITEFISH nr Kalispell							
APR-JUL	59	68	75	72	82	92	104
APR-SEP	65	75	82	71	89	99	116
SWAN nr Bigfork							
APR-JUL	405	445	475	81	505	545	583
APR-SEP	460	510	542	82	575	625	665

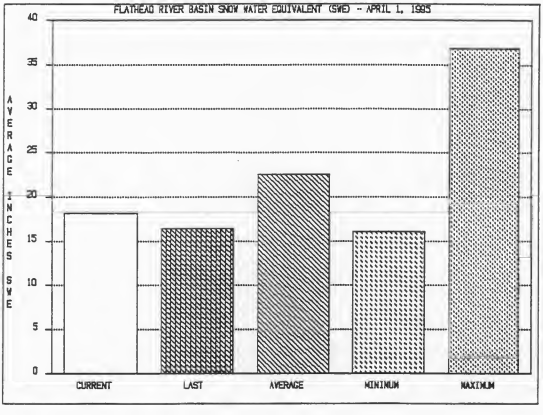
Forecast Pt / Forecast Period	<-- Drier -- Future Conditions -- Wetter --> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
FLATHEAD nr Polson (1,2)							
APR-JUL	3720	4390	4700	74	5010	5680	6390
APR-SEP	3960	4740	5090	73	5440	6220	6926

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -0.9 in the North Fork Flathead River; -2.1 in the Middle Fork Flathead River; -1.5 in the South Fork Flathead River; -1.5 in the Flathead River at Columbia Falls; -1.0 in the Stillwater/Whitefish Rivers; -1.4 in the Swan River; -1.7 in the Flathead River at Polson; -1.4 in the Mission Valley; and -2.5 in the Little Bitterroot River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1992.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1972.

UPPER CLARK FORK RIVER BASIN as of April 1, 1995

Snowpack conditions in the Upper Clark Fork River Basin were below average. Snow water content was 24 percent below average; 22 percent above last year; and increased 1 percent during March.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
CLARK FORK ab FLINT CREEK	16	129	88
FLINT CREEK	7	125	82
ROCK CREEK	6	147	88
CLARK FORK ab BLACKFOOT	25	131	86
BLACKFOOT	16	105	60
UPPER CLARK FORK BASIN	39	122	76

Mountain precipitation during March was 15 percent below average and 48 percent above last year. Valley precipitation during March was 32 percent below average and 85 percent above last year. Water year precipitation, beginning October 1, 1994, was 8 percent below average and 37 percent above last year.

Reservoir storage, on the last day of March, was 12 percent above average and 6 percent below last year. Georgetown Lake storage was 12 percent above average and 2 percent above last year; Lower Willow Creek storage was 52 percent above average and 27 percent below last year; and Nevada Creek storage was 4 percent below average and 21 percent below last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
GEORGETOWN LAKE	31.0	27.9	27.3	24.8
LOWER WILLOW CREEK	4.9	3.5	4.8	2.3
NEVADA CREEK	12.6	7.0	8.9	7.3

Streamflows, for the period April through July, are forecast to be 36 percent below average and 22 percent above last years forecasts. Streamflows in the Blackfoot River are going to need timely spring rain to insure adequate surface water supplies. Spring and summer flows are anticipated to be well below average, peak earlier than normal and return to base flows earlier than normal.

Streamflow Forecasts

	<— Drier —		Future Conditions		— Wetter —>		
Forecast Pt	Chance of Exceeding *						
Forecast Period	90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
MOULTON RES inflow (million gal.)							
APR-JUN	96	138	166	78	195	235	212
APR-JUL	101	149	182	78	215	265	234
WARM SPRINGS CK at Anaconda (2)							
APR-JUL	22	29	33	87	37	44	38
APR-SEP	29	36	41	87	46	54	47
LITTLE BLACKFOOT nr Garrison							
APR-JUL	16.0	44	62	75	80	108	83
APR-SEP	19.0	48	68	76	88	117	89
FLINT CK nr Southern Cross (2)							
APR-JUL	5.2	8.3	10.4	73	12.5	15.6	14.2
APR-SEP	5.5	9.4	12.1	72	14.8	18.7	16.7
FLINT CK bl Boulder Ck							
APR-JUL	24	35	43	75	51	62	57
APR-SEP	32	46	55	75	64	78	73
LOWER WILLOW CK RES inflow							
APR-JUL	2.8	4.6	6.4	46	8.7	12.1	14.0
APR-SEP	3.4	6.8	7.2	49	9.6	13.1	14.8
MF ROCK CK nr Philipsburg							
APR-JUL	40	48	53	80	58	66	66
APR-SEP	46	54	60	81	66	74	74
ROCK CK nr Clinton							
APR-JUL	177	210	236	80	260	295	296
APR-SEP	205	240	269	81	295	335	333
NEVADA CK nr Finn							
APR-JUL	3.8	7.4	11.0	58	14.6	19.8	19.1
APR-SEP	4.0	8.0	12.0	58	16.0	22	21
CLEARWATER nr Clearwater							
APR-JUL	101	112	120	70	128	139	172
APR-SEP	107	118	126	70	134	145	181

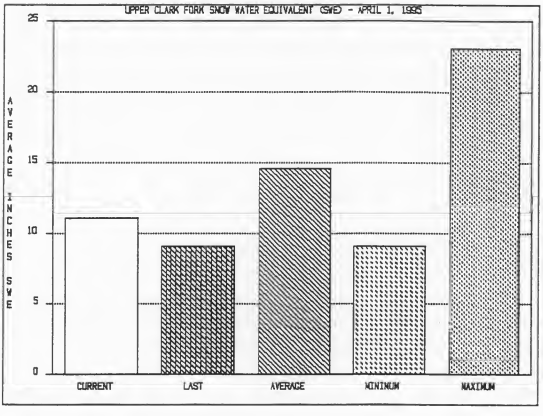
Forecast Pt Forecast Period	<== Drier == 90% (1000AF)	70% (1000AF)	Future Conditions Chance of Exceeding * 50% (Most Prob) (1000AF) (% AVG.)	== Wetter ==> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
BLACKFOOT nr Bonner						
APR-JUL	255	335	390 47	445	525	835
APR-SEP	300	390	450 49	510	600	926
CLARK FORK ab Milltown						
APR-JUL	280	410	496 76	585	715	652
APR-SEP	335	480	580 77	680	825	755
CLARK FORK ab Missoula						
APR-JUL	570	760	890 60	1020	1210	1487
APR-SEP	685	895	1040 62	1180	1390	1681

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -1.3 in the Clark Fork River above Rock Creek; -2.6 in the Blackfoot River; and -2.0 in the Clark Fork River above Missoula.



AVERAGE IS FOR THE PERIOD 1960-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1994.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1972.

BITTERROOT RIVER BASIN as of April 1, 1995

Snowpack conditions in the Bitterroot River Basin were below average. Snow water content was 25 percent below average; 19 percent above last year; and decreased 1 percent during March.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
WEST FORK BITTERROOT	3	117	78
EAST SIDE BITTERROOT	6	143	82
WEST SIDE BITTERROOT	4	109	71
BITTERROOT RIVER BASIN	12	119	75

Mountain precipitation during March was 12 percent below average and 34 percent above last year. Valley precipitation during March was 7 percent above average and 177 percent above last year. Water year precipitation, beginning October 1, 1994, was 1 percent below average and 45 percent above last year.

Reservoir storage, on the last day of March, was 4 percent below average and 124 percent above last year. Painted Rocks Lake storage was 51 percent below average and 100 percent above last year and Como storage was 37 percent above average and 123 percent above last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
PAINTED ROCKS LAKE	31.7	6.6	3.3	13.6
COMO	34.9	21.2	9.1	15.5

Streamflows, for the period April through July, are forecast to be 29 percent below average and 34 percent above last years forecasts.

Streamflow Forecasts

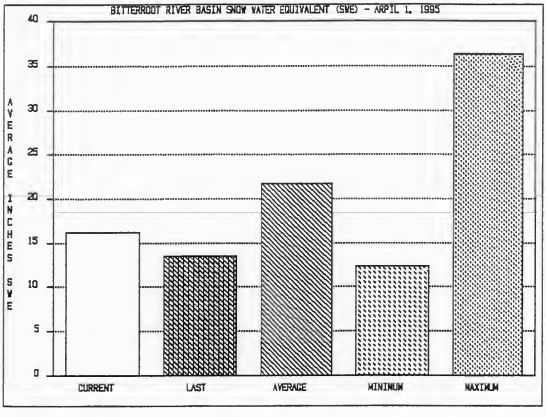
Forecast Pt Forecast Period	<— Drier — Future Conditions — Wetter —> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
WF BITTERROOT nr Conner (2)							
APR-JUL	75	95	108	71	122	141	152
APR-SEP	80	102	116	70	130	152	166
BITTERROOT nr Darby							
APR-JUL	270	325	365	74	405	460	491
APR-SEP	305	360	400	74	440	495	540
ROCK CK nr Darby (2)							
APR-JUL	50	57	62	78	67	75	79
APR-SEP	54	61	66	80	71	79	83
SKALKAHO CK nr Hamilton							
APR-JUL	24	29	33	72	37	42	46
APR-SEP	29	35	39	74	43	49	53
BURNT FORK CK nr Stevensville (2)							
APR-JUL	14.0	18.0	21	72	24	29	29
APR-SEP	16.0	21	25	74	29	34	34
BITTERROOT at Missoula							
APR-JUL	705	825	910	70	995	1120	1301
APR-SEP	775	905	995	70	1080	1220	1418

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -2.0 in the Bitterroot River.



AVERAGE IS FOR THE PERIOD 1960-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1992.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1972.

LOWER CLARK FORK RIVER BASIN as of April 1, 1995

Snowpack conditions in the Lower Clark Fork River Basin were below average. Snow water content was 29 percent below average; 17 percent above last year; and decreased 7 percent during March.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
LOWER CLARK FORK	14	117	71

Mountain precipitation during March was 7 percent below average and 45 percent above last year. Valley precipitation during March was 12 percent above average and 135 percent above last year. Water year precipitation, beginning October 1, 1994, was 1 percent above average and 54 percent above last year.

Noxon Rapids storage, on the last day of March, was 30 percent above average and 14 percent above last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
NOXON RAPIDS	335.0	301.0	264.0	231.3

Streamflows, for the period April through July, are forecast to be 31 percent below average and 14 percent above last years forecasts.

Streamflow Forecasts

Forecast Pt / Forecast Period	<— Drier — Future Conditions — Wetter —> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
CLARK FORK ab Missoula							
APR-JUL	570	760	890	60	1020	1210	1487
APR-SEP	685	895	1040	62	1180	1390	1681
CLARK FORK bl Missoula							
APR-JUL	1320	1610	1810	65	2010	2300	2788
APR-SEP	1490	1810	2030	66	2250	2570	3099
CLARK FORK at St. Regis (1)							
APR-JUL	1340	2000	2300	62	2600	3260	3686
APR-SEP	1510	2250	2580	63	2910	3650	4095

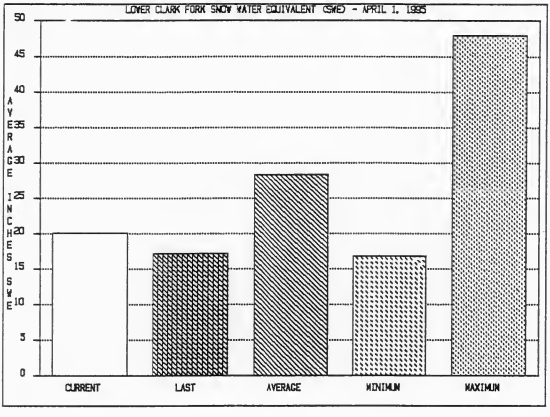
Forecast Pt Forecast Period	<== Drier == Future Conditions == Wetter ==> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
CLARK FORK nr Plains (1,2)							
APR-JUL	5130	6550	7200	69	7850	9270	10450
APR-SEP	5630	7200	7910	69	8620	10200	11470
THOMPSON RIVER nr Thompson Falls							
APR-JUL	103	130	148	69	166	193	214
APR-SEP	122	151	170	71	189	220	240
PROSPECT CREEK at Thompson Falls							
APR-JUL	64	74	81	66	88	98	123
APR-SEP	69	80	87	66	94	105	132
CLARK FK at Whitehorse Rpds (1,2)							
APR-JUL	5170	6830	7580	65	8330	9990	11730
APR-SEP	5690	7510	8340	65	9170	11000	12910

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -2.0 in the Clark Fork River below Bitterroot River and -1.8 in the Clark Fork River below Flathead River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1972.

JEFFERSON RIVER BASIN as of April 1, 1995

Snowpack conditions in the Jefferson River Basin were slightly above average. Snow water content was 9 percent above average; 69 percent above last year; and increased 3 percent during March.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
BEAVERHEAD	17	182	123
RUBY	10	197	124
BIGHOLE	21	156	99
BOULDER	9	147	103
JEFFERSON RIVER BASIN	47	169	109

Mountain precipitation during March was 49 percent above average and 208 percent above last year. Valley precipitation during March was 42 percent above average and 207 percent above last year. Water year precipitation, beginning October 1, 1994, was 22 percent above average and 74 percent above last year.

Reservoir storage, on the last day of March, was 8 percent below average and 22 percent below last year. Lima storage was 19 percent below average and 44 percent below last year; Clark Canyon storage was 7 percent below average and 16 percent below last year; and Ruby River storage was 4 percent below average and 17 percent below last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage		********* Average
		This Year	Last Year	
LIMA	84.0	30.0	53.8	36.9
CLARK CANYON	255.6	143.1	170.1	153.6
RUBY RIVER	38.8	30.1	36.4	31.2

Streamflows, for the period April through July, are forecast to be 6 percent above average and 98 percent above last years forecasts.

Streamflow Forecasts

Forecast Pt Forecast Period	<== Drier == 90% (1000AF)	70% (1000AF)	Future Conditions Chance of Exceeding * 50% (Most Prob) (1000AF)	(% AVG.)	== Wetter ==> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
RED ROCK RIVER near Monida (2)							
APR-JUL	89	100	107	110	114	125	97
APR-SEP	96	110	119	113	128	142	105
BEAVERHEAD RIVER near Grant (2)							
APR-JUL	128	150	165	125	180	200	132
APR-SEP	127	166	193	125	220	260	155
BEAVERHEAD RIVER at Barretts (2)							
APR-JUL	170	189	202	117	215	235	172
APR-SEP	200	225	238	117	255	275	203
RUBY RIVER near Alder							
APR-JUL	77	94	105	127	117	133	83
APR-SEP	91	111	124	125	138	157	99
BIG HOLE RIVER near Melrose							
APR-JUL	415	520	590	92	660	765	641
APR-SEP	475	585	660	95	735	845	697
BOULDER RIVER near Boulder							
APR-JUL	49	64	74	87	84	99	85
APR-SEP	55	70	80	88	90	106	91
WILLOW CREEK near Harrison							
APR-JUL	8.6	13.3	16.5	93	19.7	24	17.7
APR-SEP	9.6	15.1	18.8	94	23	28	20

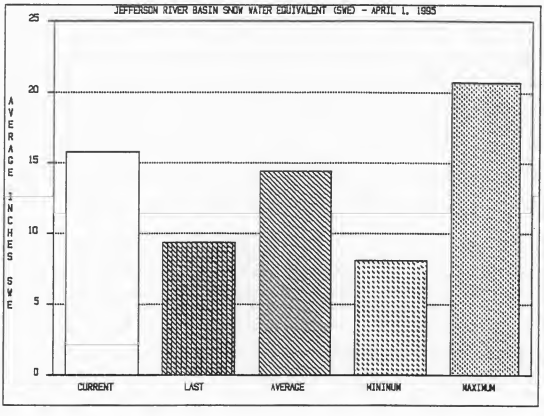
Forecast Pt / Forecast Period	<— Drier — 90% (1000AF)	70% (1000AF)	Future Conditions — 50% (Most Prob) (1000AF)	(% AVG.)	— Wetter —> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
	Chance of Exceeding *						
JEFFERSON RIVER near Three Forks (2)							
APR-JUL	750	910	1019	111	1130	1290	920
APR-SEP	850	1020	1134	112	1250	1420	1012

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was +0.5 in the Jefferson River; +1.0 in the Beaverhead River; +1.0 in the Ruby River; +0.2 in the Big Hole River; and +0.1 in the Boulder River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1972.

MADISON RIVER BASIN as of April 1, 1995

Snowpack conditions in the Madison River Basin were above average. Snow water content was 23 percent above average; 76 percent above last year; and increased 10 percent during March.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
MADISON above HEBGEN LAKE	6	177	132
MADISON below HEBGEN LAKE	11	175	117
MADISON RIVER BASIN	17	176	123

Mountain precipitation during March was 57 percent above average and 258 percent above last year. Valley precipitation during March was 38 percent above average and 300 percent above last year. Water year precipitation, beginning October 1, 1994, was 30 percent above average and 83 percent above last year.

Reservoir storage, on the last day of March, was 1 percent below average and 1 percent above last year. Ennis Lake storage was 8 percent below average and 2 percent above last year and Hebgen Lake storage was average and 5 percent below last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
ENNIS LAKE	41.0	30.7	30.1	33.2
HEBGEN LAKE	377.5	247.7	259.9	246.6

Streamflows, for the period April through July, are forecast to be 20 percent above average and 62 percent above last years forecasts.

Streamflow Forecasts

Forecast Pt / Forecast Period	<== Drier == Future Conditions == Wetter ==> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
MADISON RIVER near Grayling (2)							
APR-JUL	415	445	467	123	490	520	380
APR-SEP	520	560	586	121	610	650	486

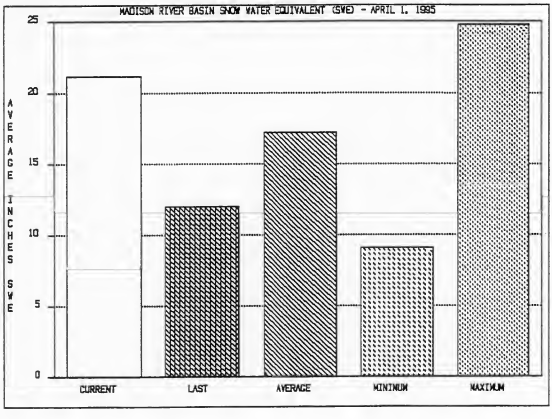
Forecast Pt Forecast Period	<— Drier — Future Conditions — Wetter —> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
MADISON RIVER near McAllister (2)							
APR-JUL	695	745	780	118	815	865	662
APR-SEP	880	935	974	117	1010	1070	831

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was +2.4 in the Madison River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1974.

GALLATIN RIVER BASIN as of April 1, 1995

Snowpack conditions in the Gallatin River Basin were near average. Snow water content was 1 percent below average; 37 percent above last year; and increased 9 percent during March.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
UPPER GALLATIN	7	152	110
HYALITE	5	124	88
BRIDGER	3	118	88
GALLATIN RIVER BASIN	15	137	99

Mountain precipitation during March was 37 percent above average and 197 percent above last year. Valley precipitation during March was 49 percent above average and 179 percent above last year. Water year precipitation, beginning October 1, 1994, was 7 percent above average and 57 percent above last year.

Middle Creek storage, on the last day of March, was 37 percent above average and 40 percent above last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
MIDDLE CREEK	10.2	5.6	4.0	4.1

Streamflows, for the period April through July, are forecast to be 4 percent above average and 42 percent above last years forecasts.

Streamflow Forecasts

	<== Drier == Future Conditions == Wetter ==>						
Forecast Pt	Chance of Exceeding *						
Forecast Period	90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
GALLATIN RIVER near Gateway							
APR-JUL	415	455	483	110	510	550	441
APR-SEP	495	535	566	109	595	635	518
E & W FK HYALITE CREEK near Bozeman							
APR-JUL	17.0	19.0	21	91	23	25	23
APR-SEP	20	22	24	92	26	28	26

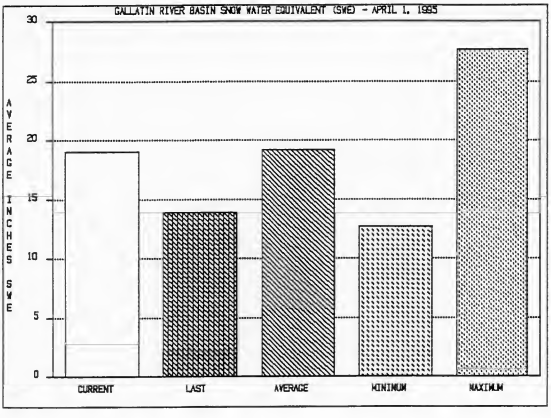
Forecast Pt Forecast Period	<— Drier — Future Conditions — Wetter —> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
HYALITE CREEK near Bozeman (2)							
APR-JUL	26	30	33	92	36	40	36
APR-SEP	31	36	39	93	42	47	42
GALLATIN RIVER at Logan (2)							
APR-JUL	365	445	500	100	555	635	498
APR-SEP	445	530	587	101	645	730	581

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was +0.8 in the Gallatin River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1987.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1971.

MISSOURI MAINSTEM RIVER BASIN as of April 1, 1995

Snowpack conditions in the Mainstem Missouri River Basin were below average. Snow water content was 15 percent below average; 20 percent above last year; and increased 5 percent during March.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	This Year as Percent of Average
HEADWATERS MAINSTEM	9	120	85
SUN-TETON-MARIAS BASINS	14	81	61
SMITH-JUDITH-MUSSELSHELL	16	109	89
MAINSTEM ab FORT PECK RES	38	98	75
MILK	5	80	84
MISSOURI MAINSTEM BASIN	43	97	75

Mountain precipitation during March was 2 percent above average and 47 percent above last year. Valley precipitation during March was 3 percent below average and 158 percent above last year. Water year precipitation, beginning October 1, 1994, was 8 percent below average and 21 percent above last year.

Reservoir storage, on the last day of March, was 1 percent above average and 1 percent above last year. Canyon Ferry Lake storage was average and 1 percent above last year; Helena Valley storage was average; Lake Helena storage was 7 percent above average and the same as last year; Hauser & Helena storage was 3 percent above average and the same as last year; Holter Lake storage was 21 percent above average and 1 percent above last year; and Fort Peck Lake storage was 3 percent below average and 8 percent below last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
CANYON FERRY LAKE	2043.0	1488.0	1469.0	1489.0
HELENA VALLEY	9.2	4.0	----	4.0
LAKE HELENA	10.4	10.9	10.9	10.2
HAUSER & HELENA	61.9	63.1	63.1	61.0
HOLTER LAKE	81.9	81.0	80.5	67.2
FORT PECK LAKE (MAF)	18.9	14.4	15.6	14.9

Streamflows, for the period April through July, are forecast to be 2 percent above average and 69 percent above last years forecasts.

Streamflow Forecasts

Forecast Pt Forecast Period	<— Drier — Future Conditions — Wetter —> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
MISSOURI RIVER at Toston (2)							
APR-JUL	1600	2020	2300	111	2580	3000	2075
APR-SEP	2130	2370	2660	110	2950	3210	2416
PRICKLY PEAR CREEK near Clancy							
APR-JUL	8.0	13.0	17.0	75	23	33	23
APR-SEP	9.0	15.0	20	74	27	37	27
SUN RIVER at Gibson Dam (2)							
APR-JUL	184	260	310	65	360	435	478
APR-SEP	215	295	350	67	405	485	526
MISSOURI RIVER at Fort Benton (2)							
APR-JUL	1990	2700	3180	103	3660	4370	3087
APR-SEP	2800	3300	3830	104	4360	4850	3678
MARIAS RIVER near Shelby (2)							
APR-JUL	176	265	322	72	380	470	447
APR-SEP	205	295	354	73	415	505	487
MISSOURI RIVER at Virgelle (2)							
APR-JUL	2240	3030	3560	99	4090	4880	3595
APR-SEP	3040	3620	4220	100	4820	5650	4217
MISSOURI RIVER near Landusky (2)							
APR-JUL	2580	3390	3940	101	4490	5300	3897
APR-SEP	3340	4100	4690	102	5280	6320	4580
MISSOURI RIVER below Fort Peck (2)							
APR-JUL	2670	3450	3980	99	4510	5290	4015
APR-SEP	3080	4040	4610	103	5180	6120	4467

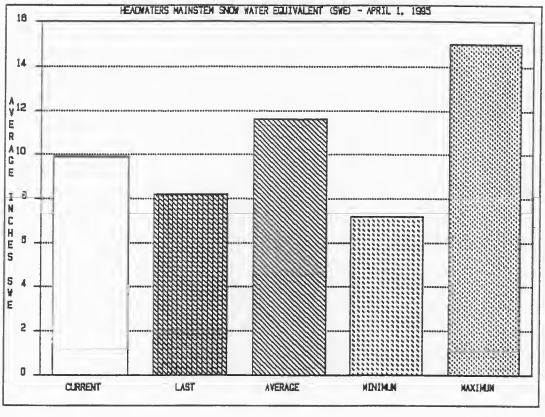
Forecast Pt Forecast Period	<== Drier == Future Conditions == Wetter ==> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
LAKE SAKAKAWEA Inflow (2)							
APR-JUL	7900	9070	9870	100	10700	11800	9897
APR-SEP	8400	10400	11370	100	12300	14600	11346

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was +1.2 in the Missouri River above Canyon Ferry; +0.9 in the Missouri River below Canyon Ferry; +0.5 in the Missouri River above Ft. Peck; and +0.0 in the Missouri River below Ft. Peck.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1961.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1972.

SMITH-JUDITH-MUSSELSHELL RIVER BASINS as of April 1, 1995

Snowpack conditions in the Smith-Judith-Musselshell River Basins were below average. Snow water content was 11 percent below average; 9 percent above last year; and increased 11 percent during March.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
SMITH	7	103	84
JUDITH	8	103	91
MUSSELSHELL	8	122	87
SMITH-JUDITH-MUSSELSHELL	16	109	89

Mountain and valley precipitation for all three basins during March was 14 percent above average and 64 percent above last year. Water year precipitation, beginning October 1, 1994, for all three basins was 4 percent below average and 9 percent above last year. Mountain and valley precipitation in the Smith River was 9 percent below average and 49 percent above last year; Mountain and valley precipitation in the Judith River was 64 percent above average and 196 percent above last year; and Mountain and valley precipitation in the Musselshell River was 6 percent below average and 20 percent below last year.

Reservoir storage, on the last day of March, was 8 percent above average and 16 percent below last year. Smith River storage was 19 percent below average and 42 percent below last year; Newlan Creek storage was 20 percent above average and 7 percent below last year; Bair storage was 13 percent below average and 27 percent below last year; Martinsdale storage was 35 percent below average and 62 percent below last year; and Deadman's Basin was 20 percent above average and 1 percent above last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
SMITH RIVER	10.6	6.0	10.3	7.4
NEWLAN CREEK	12.4	10.0	10.8	8.3
BAIR	7.0	4.1	5.6	4.7
MARTINSDALE	23.1	6.3	16.7	9.7
DEADMAN'S BASIN	72.2	60.2	59.7	50.1

Streamflows, for the period April through July, are forecast to be 17 percent below average and 10 percent above last years forecasts.

Streamflow Forecasts

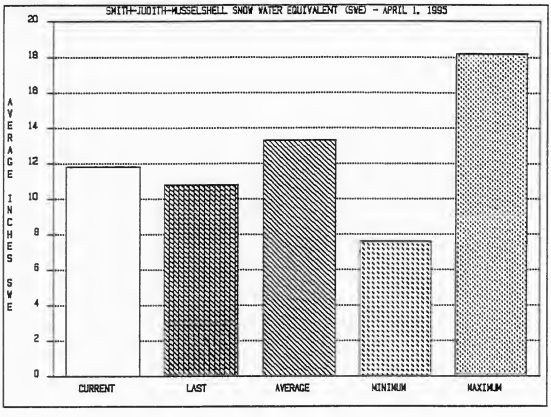
Forecast Pt Forecast Period	<== Drier == Future Conditions == Wetter ==> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
SMITH RIVER near Fort Logan							
APR-JUL	26	39	48	77	57	70	62
APR-SEP	37	49	58	79	67	79	73
SHEEP CREEK nr White Sulphur Springs							
APR-JUL	8.8	11.3	13.0	72	14.7	17.2	18.1
APR-SEP	11.0	14.0	15.0	73	17.0	20	21
NF MUSSELSHELL near Delpine							
APR-JUL	1.0	2.3	3.2	67	4.1	5.4	4.8
APR-SEP	1.3	2.7	3.7	66	4.7	6.1	5.6
SF MUSSELSHELL abv Martinsdale							
APR-JUL	20	37	49	94	61	78	52
APR-SEP	23	41	53	95	65	84	56

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -1.8 in the Smith River and -0.2 in the Musselshell River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1992.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1970.

SUN-TETON-MARIAS RIVER BASINS as of April 1, 1995

Snowpack conditions in the Sun-Teton-Marias River Basins were well below average. Snow water content was 39 percent below average; 19 percent below last year; and decreased 12 percent during March.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
SUN	7	70	49
TETON	4	72	58
MARIAS	6	89	69
SUN-TETON-MARIAS BASINS 4	14	81	61

Mountain and valley precipitation in the three basins during March was 49 percent below average and 19 percent below last year. Water year precipitation, beginning October 1, 1994, in the three basins was 10 percent below average and 17 percent above last year. Mountain and valley precipitation in the Sun River was 54 percent below average and 26 percent above last year; in the Teton River was 49 percent below average and 13 percent below last year; and in the Maria River was 49 percent below average and 26 percent below last year.

Reservoir storage, on the last day of March, was 12 percent above average and 13 percent below last year. Gibson storage was 47 percent below average and 53 percent below last year; Pishkun storage was 16 percent below average and 21 percent below last year; Willow Creek storage was 13 percent below average and 37 percent below last year; Lower Two Medicine Lake storage was 56 percent above average and 1 percent below last year; Four Horns Lake storage was 10 percent below average and 13 percent below last year; Swift storage was 6 percent above average and 19 percent below last year; Lake Frances storage was 27 percent below average and 46 percent below last year; and Lake Elwell (Tiber) storage was 23 percent above average and 4 percent below last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
GIBSON	99.1	26.6	56.2	50.5
PISHKUN	32.0	15.0	18.9	17.8
WILLOW CREEK	32.2	19.8	31.6	22.8
LOWER TWO MEDICINE LAKE	11.9	11.7	11.8	7.5
FOUR HORNS LAKE	19.2	11.3	13.0	12.5
SWIFT	30.0	18.2	22.6	17.2
LAKE FRANCES	112.0	52.2	96.9	71.6
LAKE ELWELL (TIBER)	1347.0	733.5	765.0	596.7

Streamflows, for the period April through July, are forecast to be 30 percent below average and 5 percent below last years forecasts. Streamflows are anticipated to be well below average for the spring and summer, with peaks much earlier than normal and returning to base flows much earlier than normal. Timely spring rains are going to be necessary to insure normal water supplies in all three basins.

Streamflow Forecasts

Forecast Pt Forecast Period	<— Drier — Future Conditions — Wetter —> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
SUN RIVER at Gibson Dam (2)							
APR-JUL	184	260	310	65	360	435	478
APR-SEP	215	295	350	67	405	485	526
TWO MEDICINE RIVER near Browning (2)							
APR-JUL	93	134	162	75	190	230	215
APR-SEP	105	145	173	76	200	240	228
BADGER CREEK near Browning (2)							
APR-JUL	45	64	77	74	90	109	104
APR-SEP	56	77	91	76	105	126	120
SWIFT RESERVOIR Inflow near Dupuyer							
APR-JUL	24	38	47	69	57	71	68
APR-SEP	34	48	58	73	68	83	80
DUPUYER CREEK near Valier							
APR-JUL	2.5	3.4	4.3	28	10.5	19.5	15.5
APR-SEP	3.1	4.0	4.9	28	11.6	21	17.4
CUT BANK CREEK at Cut Bank							
APR-JUL	39	53	62	71	71	85	87
APR-SEP	45	59	69	72	79	93	96

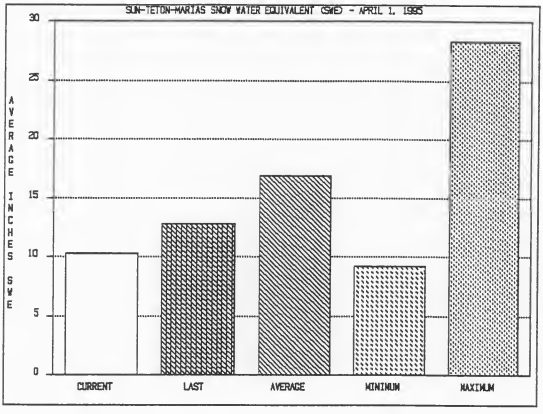
Forecast Pt Forecast Period	<—— Drier —— Future Conditions —— Wetter ——> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
MARIAS RIVER near Shelby (2)							
APR-JUL	176	265	322	72	380	470	447
APR-SEP	205	295	354	73	415	505	487

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -2.3 the Sun River; -2.6 in the Teton River; -2.2 in the Marias River; and -2.1 in the Birch/Dupuyer Creeks.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1984.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1972.

ST. MARY and MILK RIVER BASINS as of April 1, 1995

Snowpack conditions in the St. Mary River Basin were below average and in the Milk River Basin were below average. Snow water content in the St. Mary River Basin was 22 percent below average; 12 percent below last year; and decreased 8 percent during March. Snow water content in the Milk River Basin was 16 percent below average; 20 percent below last year; and increased 77 percent during March. The storm that hit central Montana during the third week of March added a healthy amount of snow to the Bearpaw Mountains. However, because of very dry soils there may not be significant runoff from the remaining snow.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
ST. MARY RIVER BASIN	3	88	78
BEARPAW MOUNTAINS	5	80	84
CYPRESS HILLS, CANADA	0	--	--
MILK RIVER BASIN	5	80	84
ST. MARY and MILK BASINS	8	87	79

Mountain and valley precipitation in the two basins during March was 6 percent above average and 76 percent above last year. Water year precipitation, beginning October 1, 1994, in the two basins was 3 percent below average and 12 percent above last year. Mountain and Valley precipitation in the St. Mary River was 30 percent below average and 6 percent below last year and in the Milk River was 82 percent above average and 477 percent above last year.

Reservoir storage, on the last day of March, was 23 percent below average and 44 percent below last year. Lake Sherburne storage was 2 percent above average and 30 percent below last year; Fresno storage was 24 percent below average and 57 percent below last year; Beaver Creek storage was 32 percent above average and 12 percent below last year; and Nelson storage was 40 percent below average and 56 percent below last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
LAKE SHERBURNE	64.3	25.4	36.5	24.8
FRESNO	127.0	58.8	103.2	77.1
BEAVER CREEK	3.5	2.9	3.3	2.2
NELSON	66.8	21.8	49.8	36.5

Streamflows in the St. Mary, for the period April through July, are forecast to be 16 percent below average and 4 percent above last years forecasts. Streamflow in the Milk, for the period April through July, are forecast to be 40 percent below average and 10 percent below last years forecasts.

Streamflow Forecasts

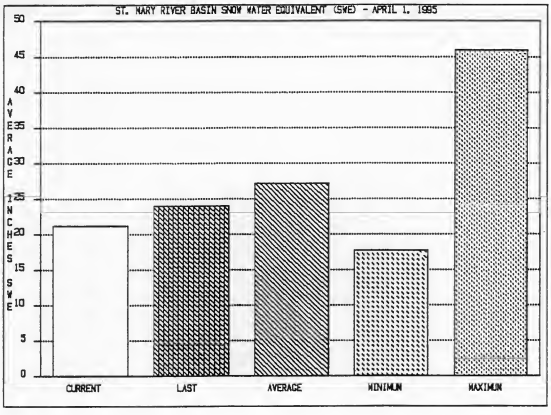
Forecast Pt Forecast Period	<== Drier == Future Conditions == Wetter ==> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
SWIFTCURRENT CREEK at Sherburne (2)							
APR-JUL	81	89	95	89	101	109	107
APR-SEP	95	105	111	89	118	127	125
ST. MARY RIVER near Babb (2)							
APR-JUL	275	305	326	83	345	375	395
APR-SEP	325	360	384	83	410	445	463
ST. MARY RIVER at US/CAN Border (2)							
APR-JUL	316	360	390	84	420	464	462
APR-SEP	377	426	460	85	494	543	539
MILK RIVER at Western Crossing							
APR-JUL	8.0	16.0	21	57	26	34	37
APR-SEP	9.0	17.0	22	56	27	35	39
MILK RIVER at Eastern Crossing (2)							
APR-JUL	9.0	25	36	62	47	63	58
APR-SEP	17.0	32	42	63	52	67	67
BEAVER CREEK near Havre							
APR-JUL	1.5	3.7	5.8	61	8.6	12.7	9.5

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

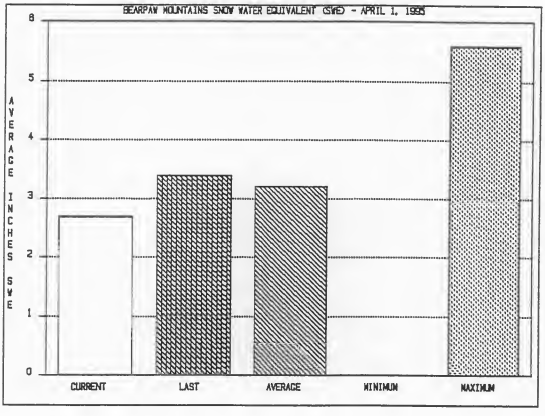
Surface Water Supply Index (SWSI) was -2.5 in the Milk River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1977.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1992.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1973-1994, OCCURRED IN WATER YEAR 1983.

MAXIMUM SNOW WATER EQUIVALENT, 1973-1994, OCCURRED IN WATER YEAR 1975.

UPPER YELLOWSTONE RIVER BASIN as of April 1, 1995

Snowpack conditions in the Upper Yellowstone River Basin were slightly below average. Snow water content was 4 percent below average; 23 percent above last year; and increased 1 percent during March.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
YELLOWSTONE ab LIVINGSTON	18	133	104
SHIELDS	7	135	94
BOULDER-STILLWATER	7	91	72
CLARK'S FORK-ROCK CREEK	13	121	98
UPPER YELLOWSTONE BASIN	41	123	96

Mountain precipitation during March was 26 percent above average and 117 percent above last year. Valley precipitation during March was 55 percent above average and 270 percent above last year. Water year precipitation, beginning October 1, 1994, was 10 percent above average and 41 percent above last year.

Reservoir storage, on the last day of March, was 28 percent above average and 15 percent below last year. Mystic Lake storage was 42 percent below average and 38 percent above last year and Cooney storage was 41 percent above average and 14 percent above last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********* This Year	Last Year	Average
MYSTIC LAKE	21.0	1.8	1.3	3.1
COONEY	27.4	23.8	20.9	16.9

Streamflows, for the period April through July, are forecast to be average and 15 percent # last years forecasts.

Streamflow Forecasts

Forecast Pt Forecast Period	<== Drier == Future Conditions == Wetter ==> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
YELLOWSTONE RIVER at Corwin Springs							
APR-JUL	1490	1590	1650	103	1710	1810	1609
APR-SEP	1780	1910	1992	103	2080	2210	1937
YELLOWSTONE RIVER near Livingston							
APR-JUL	1710	1830	1906	103	1990	2110	1855
APR-SEP	2070	2210	2312	103	2410	2560	2241
SHIELDS RIVER near Livingston							
APR-JUL	128	152	169	104	186	210	162
APR-SEP	144	169	186	104	205	230	179
BOULDER RIVER at Big Timber							
APR-JUL	240	280	307	92	335	375	335
APR-SEP	260	305	332	91	360	400	364
WEST ROSEBUD CREEK near Roscoe (2)							
APR-JUL	51	57	61	100	65	71	61
APR-SEP	68	75	80	101	85	92	79
STILLWATER RIVER nr Absarokee (2)							
APR-JUL	340	410	455	91	500	570	498
APR-SEP	440	505	550	93	595	660	593
CLARKS FORK RIVER near Belfry							
APR-JUL	445	500	535	101	570	625	532
APR-SEP	510	570	610	103	650	710	590
RED LODGE CREEK blw Cooney Res (2)							
APR-JUL	21	36	47	100	58	73	47
APR-SEP	32	48	58	102	69	84	57

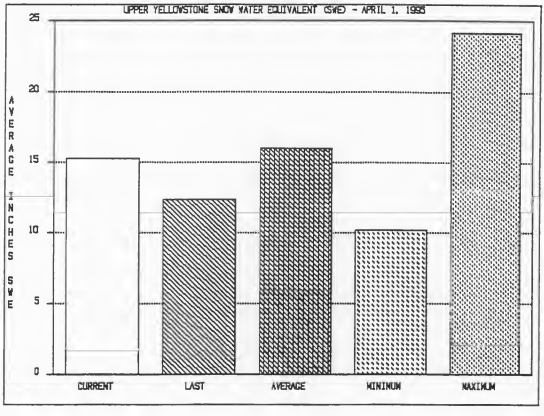
Forecast Pt Forecast Period	<— Drier — Future Conditions — Wetter —> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
YELLOWSTONE RIVER at Billings (2)							
APR-JUL	2770	3210	3512	98	3810	4260	3577
APR-SEP	3420	3900	4230	100	4560	5040	4211

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was -0.1 in the Yellowstone River above Bighorn River; +0.1 in the Yellowstone River above Livingston; +0.2 in the Shields River; -0.6 in the Boulder River; -0.4 in the Stillwater River; -0.5 in the Rock/Red Lodge Creeks; and -0.4 in the Clarks Fork River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1981.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1971.

LOWER YELLOWSTONE RIVER BASIN as of April 1, 1995

Snowpack conditions in the Lower Yellowstone River Basin were near average. Snow water content was 2 percent below average; 12 percent above last year; and increased 2 percent during March.

Watershed Snowpack Analysis

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
WIND RIVER (Wyoming)	20	122	97
SHOSHONE RIVER (Wyoming)	7	139	112
BIGHORN RIVER (Wyoming)	21	114	103
LITTLE BIGHORN (WYOMING)	3	74	84
TONGUE RIVER (Wyoming)	9	89	89
POWDER RIVER (Wyoming)	9	117	101
LOWER YELLOWSTONE BASIN	49	112	98

Mountain and valley precipitation during March was 13 percent above average and 20 percent above last year. Water year precipitation, beginning October 1, 1994, was 20 percent above average and 27 percent above last year.

Reservoir storage, on the last day of March, was average and 2 percent above last year. Bighorn Lake storage was average and 2 percent above last year and Tongue River was 8 percent below average and 10 percent above last year.

Reservoir Storage (1000AF) End of March

Reservoir	Usable Capacity	********** Usable Storage ********** This Year	Last Year	Average
BIGHORN LAKE	1356.0	798.0	783.3	798.5
TONGUE RIVER	68.0	33.1	30.2	36.1

Streamflows, for the period April through July, are forecast to be average and 13 percent above last years forecasts.

Streamflow Forecasts

Forecast Pt / Forecast Period	<— Drier — Future Conditions — Wetter —> Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Prob) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
YELLOWSTONE RIVER at Billings (2)							
APR-JUL	2770	3210	3512	98	3810	4260	3577
APR-SEP	3420	3900	4230	100	4560	5040	4211
BIGHORN RIVER nr St. Xavier (2)							
APR-JUL	1270	1530	1711	104	1890	2150	1645
APR-SEP	1490	1760	1941	108	2120	2390	1794
LITTLE BIGHORN RIVER nr Hardin							
APR-JUL	58	98	125	89	152	192	140
APR-SEP	65	111	142	90	173	220	157
TONGUE RIVER stateline nr Decker (2)							
APR-JUL	141	185	215	93	245	290	230
APR-SEP	162	210	239	93	270	315	256
YELLOWSTONE RIVER at Miles City (2)							
APR-JUL	4180	5000	5550	102	6100	6920	5431
APR-SEP	5210	5860	6440	103	7020	7660	6281
POWDER RIVER at Moorhead							
APR-JUL	86	135	168	80	200	250	211
APR-SEP	72	165	195	84	225	340	232
POWDER RIVER near Locate							
APR-JUL	116	170	207	82	245	300	252
APR-SEP	75	192	235	85	280	420	276

Forecast Pt Forecast Period	<== Drier == 90% (1000AF)	70% (1000AF)	Future Conditions Chance of Exceeding * 50% (Most Prob) (1000AF)	(% AVG.)	== Wetter ==> 30% (1000AF)	10% (1000AF)	30 Yr Avg (1000AF)
YELLOWSTONE RIVER nr Sidney (2)							
APR-JUL	4040	5130	5880	99	6630	7720	5925
APR-SEP	5310	5690	6540	96	7390	8310	6814

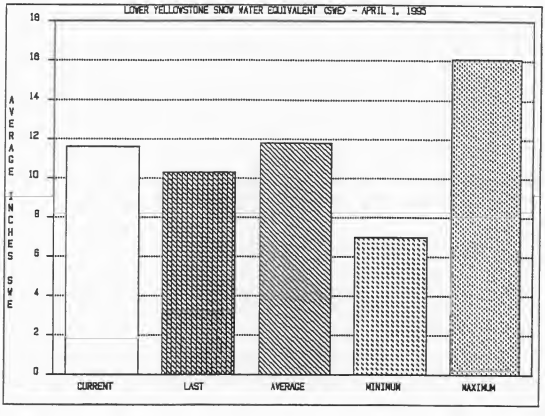
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

Surface Water Supply Index (SWSI) was 0.0 in the Yellowstone River below Bighorn River; +0.1 in the Bighorn River below Bighorn Lake; -1.3 in the Little Bighorn River; -1.3 in the Tongue River; and -0.1 in the Powder River.



AVERAGE IS FOR THE PERIOD 1961-1990.

MINIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1966.

MAXIMUM SNOW WATER EQUIVALENT, 1961-1994, OCCURRED IN WATER YEAR 1971.

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Montana
Basin Outlook Report

Natural Resources Conservation Service
Bozeman, MT